NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
FACT SHEET
(pursuant to NAC 445A.236)

Permittee Name: Nevada Department of Corrections (NDOC)
P.O. Box 7011
Carson City, NV 89702

Permit Number: NEV94017

Location: Pioche Conservation Camp (PCC)
#1 Hard Times Rd., Pioche, NV 89043 (Lincoln County)
Latitude: 37° 57' 16"N, Longitude: 114° 24' 49"W
Latitude/Longitude at Ponds
Township 1N, Range 67E, Section 12

General: The Nevada Department of Corrections (NDOC) submitted a complete application for renewal of Nevada Groundwater Discharge Permit NEV94017, Pioche Conservation Camp (PCC) sewage treatment disposal system on October 17, 2006.

The NDOC operates the PCC, a minimum-security men's prison camp, which is located in Hamlight Flat, approximately one and one-half miles northeast of Pioche, Nevada. PCC is designed for an inmate population of 196 inmates and is presently operating at near-capacity population (195 inmates: September 2006). Kitchen waste flows into an 8,000 gallon grease interceptor and then to a lift station. All other domestic waste flows directly to the lift station. Raw sewage from the lift station is pumped to a 1.1 acre, 12-foot deep pond that is divided into two sections by means of a baffle curtain to provide primary treatment and then polishing. Each compartment is equipped with a three horse-power aerator. The effluent from the polishing section of the treatment pond then flows to Rapid Infiltration Basin (RIB) #3, which has an overflow to a subsurface leach field. The overflow was installed to maintain the proper freeboard in the RIB. Effluent from the polishing pond can also be diverted to an emergency holding pond that is equipped with a wind-driven mixer. The emergency pond is used when insufficient capacity is available in the RIB. Two additional RIBs (#1 & #2) are present, but are not being used due to their very slow percolation rate. RIB #1 and RIB #2 need to be rehabilitated, i.e., deepened enough to break through the nearly impermeable clay layer.

Receiving Water Characteristics: The receiving water for secondary-treated effluent is the groundwater of the State via percolation in the RIB and leachfield. Monitoring well PC-1 is installed 100 ft. downgradient of the RIB's but has been reported dry on every quarterly report submitted to the Division. MW PC-1 is screened to a depth of 30 ft. bgs but does not reach the groundwater. Depth to groundwater is estimated to be 148 feet as determined by consultants for the NDOC. The camp receives its domestic water supply from Pioche Public Utilities, and the town's supply wells are upgradient of the RIBs and leachfield.

Flow: The design treatment capacity is specified to be 0.02 MGD. According to metered water usage records, this limit should be adequate for the camp's needs. The 0.02 MGD limit reflects water conservation measures enacted by the camp and corresponds to an approximate wastewater production rate of 100 gpcd. The Permittee has requested an increase in flow to 0.025 MGD, but has provided neither data nor calculations to justify this request for increase in flow. The 30-day average/daily maximum flow limitation will remain at 0.020 MGD. Flow has been

reported to exceed the design limit in 11 months from April 2005 to September 2006. This may be a reflection of a malfunctioning check valve causing backflow resulting in approximately the doubling of the flows recorded for the plant, rather than actual flow. The wastewater flow meter is located between the lift station and the primary treatment pond. **This meter needs to be repaired or replaced**. During the months July 2006 to September 2006 the drinking water meter was used to estimate wastewater flow. Flow was less than the permit limitation during these months.

Discharge Characteristics; (January 2005 – September 2006)**:**

Flow:	0.022 MGD (30-day average)
CBOD (influent)	211 mg/L (Quarterly-Average)
CBOD (effluent)	33 mg/L (Quarterly-Average)
% Removal	81 %
TSS (influent)	198 mg/L (Quarterly-Average)
TSS (effluent)	92 mg/L (Quarterly-Average)
% Removal	48 %
pH	8.1 S.U. (Quarterly-Average)
Total Nitrogen as N	25 mg/L (Quarterly-Average)

Proposed Effluent Limitations and Special Conditions:

Table 1: Plant Discharge Limitations

PARAMETER	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average	Daily Maximum	Measurement Frequency	Sample Type
Flow[1], MGD (Influent[2])	0.02	0.02	Continuous	Flow Meter
CBOD, mg/L (Influent[2])	Monitor & Report		Quarterly	Discrete
CBOD, mg/L (Effluent[3])	30	45	Quarterly	Discrete
TSS, mg/L (Influent[2])	Monitor & Report		Quarterly	Discrete
TSS, mg/L (Effluent[3])	90		Quarterly	Discrete
Total Nitrogen, mg/L (Influent[2])	Monitor & Report		Quarterly	Discrete
Total Nitrogen, mg/L (Effluent[3])	Monitor & Report		Quarterly	Discrete
pH, Std. Units (Effluent[3])	Between 6.0 & 9.0		Quarterly	Discrete
Inmate Population	Report		Quarterly	Population Count

[1]: Until the check valves and influent flowmeter are repaired or replaced, influent shall be based on domestic water usage minus the portion diverted to landscape irrigation.

[2]: Influent is wastewater flow into the headworks but prior to discharge to the treatment cells.

[3]: Effluent is discharge from the secondary treatment cell prior to disposal in the RIB's.

Table 2: Groundwater Monitoring[1]

PARAMETER	DISCHARGE LIMITATIONS	MONITORING REQUIREMENTS	
		Measurement Frequency	Sample Type
TDS, mg/L	Monitor & Report	Quarterly	Discrete
Chlorides, mg/L	Monitor & Report	Quarterly	Discrete
Nitrate as N, mg/L	Monitor & Report[2]	Quarterly	Discrete
Total Nitrogen, mg/L	10.0 mg/L	Quarterly	Discrete
Depth to Groundwater (ft)	Monitor & Report	Quarterly	Field Measurement

[1]: Monitoring well shall be checked each quarter for the presence of water; If water is present, the monitoing well shall be sampled and analyzed for the above constituents; If monitoring well is dry it shall be reported as dry in the DMR for that quarter.
[2]: See Permit Part I.A.13 for groundwater nitrate action levels.

Schedule of Compliance: The permittee shall submit the following items to the Division for review and approval:

- Within forty-five (30) days of the permit issuance date **(Moanth XX, 2007)**, the Permittee shall submit proposed operational or procedural steps to come into compliance with discharge limitations for CBOD (effluent) and TSS (effluent).

- Within ninety (30) days of the permit issuance date **(Month XX, 2007)**, the Permittee shall submit a written schedule (timeline) for implementing repairs and improvements to the wastewater treatment facility, e.g., influent flow meter; #1 & #2 RIB rehabilitation.

- Within ninety (30) days of the permit issuance date **(Month XX, 2007)**, the Permittee shall submit an updated Operations & Maintenance (O&M) Manual. The O&M Manual shall include camp sewer disposal practices enacted to reduce organic loading into the wastewater treatment system.

Rationale for Permit Requirements: The Division's rationale for the proposed monitoring conditions is as follows:

- *Flow*: Flow is tracked to ensure that the design capacity of the treatment system is not exceeded and reporting to the Division is made at 85% of the 30-day design capacity limit.

- *CBOD*: The Division requires the monitoring of influent and effluent Carbonaceous Biochemical Oxygen Demand (CBOD or Inhibited BOD), as an indication of treatment performance in the cells. The Division's secondary-treatment CBOD standards for ponds are 30 and 45 mg/L, respectively, for the 30-day average and daily maximum values.

- *TSS*: The Division's secondary-treatment standard for Total Suspended Solids (TSS) in pond system effluent is 90 mg/L.

- *Total Nitrogen*: Nitrogen monitoring is needed to determine the influent nitrogen-strength and whether the new treatment system can achieve any degree of denitrification to reduce nitrate loading into the receiving groundwater. Presently, groundwater nitrogen levels are unknown as the current monitoring well (PC-1) is too shallow for site conditions (e.g., always reported as dry). The Division's allowable limit for Total Nitrogen is 10 mg/L in groundwater.

- *pH*: The Division requires the pond effluent to meet a pH limitation of between 6.0 and 9.0 standard units.

Procedures for Public Comment: The Notice of the Division's intent to issue (modify and renew) a permit authorizing the facility to discharge secondary-treated pond effluent into the groundwater via percolation, subject to the conditions contained within the permit is being sent to the **Lincoln County Record** and **Las Vegas Review-Journal** newspapers for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of the public notice. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all written comments are to be postmarked (via mail) or transmitted to the Division via fax or e-mail is **February 19, 2007 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons.

The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.238.

The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to NRS 445A.605.

Proposed Determination: The Division has made the tentative determination to issue the proposed groundwater discharge permit for a period of five (5) years. The Technical Services Branch makes final approval of the new design plans upon their submission and review.

Prepared by: James T. Hogan
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Bureau of Water Pollution Control
January 11, 2007

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